

REMARKS

This paper is in response to the Office Action of May 2, 2007. The due date for response extends to September 2, 2007, with a one month extension. In view of the clarifying amendments, the Applicant respectfully requests reconsideration. All *official notices* taken in this action are respectfully traversed. To focus prosecution, some claims were cancelled, and the rejections directed toward the cancelled claims are deemed moot.

An Examiner Interview was conducted with Examiner Kerr on August 22, 2007, and a discussion was had regarding the cited art Erten (US 2002/0009203 A1) and Varma et al. (US 2004/0213419 A1). During the discussion, the Applicant's representative noted that Erten was concerned with defining microphone positions on objects, before the objects are finally manufactured. Consequently, the microphones are fixed and their ability to capture sound is fixed relative to the object's configuration. Thus, during use, Erten cannot provide any active adjustment, calibration or update. The claims have been amended to further clarify this difference, among other differences present between the cited art and the now claimed embodiments.

The Applicants acknowledge the restriction and election without traverse. New drawings were filed on February 20, 2004. Accordingly, as the new drawings are formal, no hand-written references now appear. Accordingly, the Applicants requests removal of the of the drawing objection.

Claims 7-11, 13, and 25-29, and 35-38 were rejected under 35 USC § 102(b) as being anticipated by Erten. This rejection is respectfully traversed, in light of the clarifying claim amendments.

Erten teaches a method for positioning individual elements of a microphone arrangement on a device before manufacturer and production. Once manufactured, the positioning remains placed. No adjustment, updates or calibrations are possible. The positions are therefore studied before manufacture to enable estimating the potential positions of the sources of signals of interest as well as potential positions of interfering signal sources. During the testing, a set of criteria are defined for acceptable performance of a signal

processing system. After defining the criteria, the first element of the microphone arrangement is positioned in a convenient location. The defined criteria place constraints upon the placement of the subsequent microphone elements.

Reference is drawn to Figure 1 of Erten, which teaches a flow that requires consideration of all positions that the interfering sound sources can take in 104. Then, criteria is set and referenced to enable arrangement in 108. A prototype is made in 112 and then testing in 114 is done. If the testing 114 for the positions is acceptable, the testing will define the fixed and finalized 116 arrangement of the microphones.

The Office points to Figure 21 as defining first and second filters. Also, the Office points to [0048] to teach the periodic monitoring and [0062-0066] to each the calibration. Paragraph 48 does not teach periodic monitoring, and instead teaches the process of Erten's Figure 1, that defines a pre-manufacturing set up that is tested until being fixed, if deemed to be acceptable. The claims have also been amended to specifically claim that the processing is done during game play or active use. For example:

Independent claim 7 recites:

...periodically monitoring an acoustic set-up associated with the audio signal; and
calibrating both a value of the first filter and a value of the second filter based upon the acoustic set-up so as to actively update tracking and steering toward the target signal component during game play.

Independent claim 25 recites:

a microphone array affixed to the portable consumer device, the microphone array configured to capture audio signals, wherein a listening direction associated with the microphone array is actively adjusted during active use controlled through the logic configured to enhance the target audio signal.

Independent claim 31 recites:

...a computing system including circuitry configured to process the audio signal when received by the microphone array of the game controller ; and , the computing system including filtering and enhancing logic that is periodically monitored and actively calibrated configured to filter the noise and enhance the target audio signal as a position of the video game controller and a position of a source of the target audio signal change in

position during game play, wherein the filtering of the noise includes processing is achieved through a plurality of filter-and-sum operations at the computing device.

Independent claim 35 recites:

...circuitry configured to adjust a listening direction during game play according to filters computed through an adaptive array calibration scheme,

wherein the noise reduced signal is generated using any active adjustment in the listening direction during game play.

As can be seen, the claims have been amended to make clear that the active adjustments are made during game play, and not fixed during manufacturing. The reason Erten requires the best selection of positions and the building of prototypes, is that the fixes positions must perform as best as possible, give the configuration in which the microphones will be installed. As taught by Erten, the microphones can be placed on items such as, cell phones, car visors or rear view mirrors, sun glasses, ear pieces, shirts, etc. Based on what item the microphones are to be placed, Erten then builds prototypes, which are then tested to come up with a fixed configuration. No adjustment in listening direction or calibration takes place after manufacture. And in fact, one skilled in the art would not be motivated to change the configuration during active use, as Erten specifically teaches that specific criteria is determined before the final positioning is determined. That is, moving the position after a item is manufactured would violate the required pre-design testing and criteria that was used to dictate the set and fixed position.

Dependent claim 12 was rejected under 35 USC § 103(a) as being unpatentable over Erten. This Official Notice is respectfully traversed. The Office states that Erten does not periodically monitor an acoustic set up associated with the audio signal that occurs every 100 milliseconds. It is indeed true that Erten does not teach the periodic monitoring, however, even if another reference were advanced to teach periodic monitoring, such teachings could not be combined with Erten, as Erten requires the microphone positioning to be prototyped and fixed. Once in the field, no periodic monitoring would be needed, as no adjustment would be possible. For at least these reasons, the Applicant requests withdrawal of this rejection.

Claims 30-34 and 39 were rejected under 35 USC 103(a) as being unpatentable over Erten in view of Varma et al. (US 2004/0213419 A1). This rejection is respectfully traversed. As noted above, dependent claims 30, 32-34 and 39 are submitted to be patentable as depending from independent claims that are submitted to be patentable. Specifically, the independent claims were amended to further distinguish the claimed invention from the teaching so Erten, as Erten defines a fixed microphone placement that cannot be updated during use or game play. Independent claim 31 was also amended along the same lines, as noted above, and for this reason, is submitted to be patentable.

For the record, the teachings of Varma et al. have been reviewed, but are distinguishable from the now amended claims. Indeed Varma et al. discloses a controller for a gaming system, however, the structure and methods define by Varma et al. are directed to canceling noise coming from known locations. Note in paragraph [0006], Varma et al. states that "[i]n accordance with the various embodiments, the sources of noise are known a priori and hence, the microphone array is used to capture one or more audio signals associated with the desired speech." Also, paragraph [0025] teaches that the microphones are used to eliminate noise coming from known, generally fixed locations and/or sources, and passes signals from a pre-specified region with reduced distortion. The noise canceling is thus directly fixed to act upon areas where noise is likely to occur. No active adjustment would be needed during game play by Varma et al., as the noise reduction is limited to the known and fixed locations. Modifying Varma et al. to work otherwise, would cause Varma et al. to not work in accordance with its teachings. For this reason, it is submitted that Varma et al. does not teach nor suggest the new claimed embodiments, nor can Varma et al. be combined with Erten to suggest the now claimed inventions.

The dependent claims are submitted to be patentable over the cited art for at least the same reasons the independent claims are believed to be patentable. Thus, in view of the foregoing, the Applicant respectfully requests that the Section 102 and Section 103 rejections be withdrawn.

If the Examiner has any questions concerning the present amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6903. If any other fees are due in connection with filing this amendment, the Commissioner is also authorized to charge

Deposit Account No. 50-0805 (Order No SONYP028). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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